

REMARKS

Claims 1-30 are currently pending in the subject application and are presently under consideration. Claims 1 and 16 have been amended to further emphasize various distinguishing features of the claimed subject matter. In addition, independent claim 16 has also been amended to correct minor informalities. A version of all pending claims can be found at pages 2-13 of this Reply.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Objection to Claim 16

Claim 16 is objected to because of the following informalities: The limitation “slimming_weighted accuracy scores” on line 16 of the claim. Claim 16 has been amended to recite “summing” rather than “slimming_” in accordance with the Examiner’s suggestion at page 4 of the Final Office Action (dated July 11, 2008). Hence, this objection should be withdrawn.

II. Rejection of Claims 1-5, 13, 16-20, and 28 Under 35 U.S.C. §103(a)

Claims 1-5, 13, 16-20, and 28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Batten (US 5,768,478) in view of Bellegarda (US 6,285,785). Withdrawal of this rejection is requested for at least the following reasons. The cited references, either alone or when combined, do not teach or suggest all the claim features.

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) ***must teach or suggest all the claim limitations***. In addition, there must be a reasonable expectation of success to make the proposed combination. *See In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). “[R]jections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR v. Teleflex*, 550 U.S. ___, 127 S. Ct. 1727 (2007) *citing In re Kahn*, 441 F. 3d 977, 988 (CA Fed. 2006).

The claimed subject matter relates to combining of summed weighted accuracy scores to reflect expected frequencies or likelihoods of demographic or other characteristics of a group of signals that are to be evaluated. More specifically, the claimed subject matter relates to adjusting of weights applied to individual accuracy scores calculated for recognition of particular features associated with individual signal sets within a group of signals sets in order to reflect demographics or other relevant variables, calculating summed accuracy scores, and then combining the resulting summed accuracy scores subject to weights chosen to be appropriate for different test data. To illustrate with an example, weights can be assigned during a training process to features of handwriting that are more important in identifying writing of females than males. Different weights can be assigned to the same features when identifying writing of males. The weighted accuracy scores for these features can be summed to generate separate summed accuracy scores for males and females. Accordingly, an application whose users are estimated to be 75% females and only 25% males can leverage demographic characteristics to provide better recognition and/or results. In particular, independent claim 1 (and similarly independent claim 16) recites, “using summed accuracy scores from at least two separate training sets comprising samples, *wherein each separate training set is distinguished by a feature characteristic identified based upon a demographic characteristic associated with a source of the samples, to create one or more signal processing engines to handle multiple applications to one or more new groups of signal sets for which a frequency of the feature characteristic of the separate training sets are known or assumed*, by weighting the summed accuracy score associated with each training set according to the frequency and then combining the weighted summed accuracy scores.” The cited references, either individually or in combination, do not teach or suggest these features.

In particular, it is conceded at page 21 of the Final Office Action (July 11, 2008) that Batten in view of Bellegarda does not teach these features. Further, the Examiner subsequently argues that the addition of Hoffberg (US 7,136,710) will remedy the deficiencies apparent in Batten and Bellegarda with respect to the subject claims as amended. However, Hoffberg is materially deficient to teach or suggest, “using summed accuracy scores from at least two separate training sets comprising samples, *wherein each separate training set is distinguished by a feature characteristic identified based upon a demographic characteristic associated with a source of the samples, to create one or more signal processing engines to handle multiple*

*applications to one or more new groups of signal sets **for which a frequency of the feature characteristic of the separate training sets are known or assumed**, by weighting the summed accuracy score associated with each training set according to the frequency and then combining the weighted summed accuracy scores.”*

In more detail, Hoffberg relates to an adaptive interface to aid in programming a consumer or industrial device or interface, a primary example of which is a consumer VCR. (See Abstract). Hoffberg discloses that preferences relating to programming choices (*e.g.*, broadcast programs that can be recorded by the VCR) can be determined based upon user preferences. (See col. 36, ll. 39-45). Hoffberg notes that when the target device is utilized by multiple users, programming can be based upon a composite of the individual preferences (*see* col. 36, ll. 30-32) in the case of small groups; or based upon demographic profiles rather than individual or composition preference profiles (*see* col. 36, ll. 56-58) where the group of users is large.

Thus, Hoffberg teaches utilizing demographic information of a large group of users in order to predict source material (*e.g.*, a television program) that may be of interest to many members of the group. (See, *e.g.*, col. 36, ll. 61-64). In other words, Hoffberg employs demographic data **describing the user** in order to predict what content **the user** will prefer. In contrast, the claimed subject matter relates to employing demographic data describing the **source** of a sample that is used to train a model (*e.g.*, processing engine), not a demographic of the user. To provide a concrete illustration of these distinctions, consider the differences between the following two cases. (1) Utilizing the fact that the content consumer is female (demographic data) in order to predict what content that consumer will prefer; contrasted with (2) utilizing the fact that the content creator (as opposed to the content consumer) is female in order to construct a content model. Moreover, Hoffberg does not contemplate a feature characteristic as the reference is silent as to demographic characteristics of the source of the sample, which is materially distinct from input from users because samples are used to train a model. Accordingly, Hoffberg does not teach or suggest the “frequency of the feature characteristic” is “known or assumed.”

Hence, it is readily apparent that Hoffberg does not teach or suggest “using summed accuracy scores from at least two separate training sets comprising samples, **wherein each separate training set is distinguished by a feature characteristic identified based upon a demographic characteristic associated with a source of the samples**, to create one or more signal processing engines to handle multiple applications to one or more new groups of signal

sets *for which a frequency of the feature characteristic of the separate training sets are known or assumed*, by weighting the summed accuracy score associated with each training set according to the frequency and then combining the weighted summed accuracy scores.” Rather, Hoffberg merely names or describes utilizing existing demographic profiles of users in order to make recommendations to those users, which is markedly different from training a model based upon feature characteristics identified by demographic characteristics of sample sources.

III. Rejection of Claims 6 and 21 Under 35 U.S.C. §103(a)

Claims 6 and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Batten (US 5,768,478) in view of Bellegarda (US 6,285,785) as applied to claim 1, and further in view of Thiesson (US 5,097,141). This rejection should be withdrawn for at least the following reasons. Batten, Bellegarda, and Thiesson as well as combinations thereof, all fail to teach or suggest all the claimed features.

In particular, claims 6 and 21 depend from independent claims 1 and 16, which are believed to be allowable as described *supra*. The addition of Thiessen does not make up for the aforementioned shortcomings of Batten, Bellegarda, and/or Hoffberg with respect to claims 1 and 16. Accordingly, withdrawal of this rejection is respectfully requested.

IV. Rejection of Claims 7, 8, 22, and 23 Under 35 U.S.C. §103(a)

Claims 7, 8, 22, and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Batten (US 5,768,478) in view of Bellegarda (US 6,285,785) as applied to claim 1, and further in view of Hoffberg (US 7,136,710). It is submitted that this rejection should be withdrawn for at least the following reasons. Batten, Bellegarda, and Hoffberg, alone or in combination, fail to teach or suggest each and every aspect of the instant claims. In particular, claims 7, 8, 22 and 23 recite features similar to those discussed *supra* regarding independent claims 1 and 16, for which the cited references are materially deficient to render obvious.

Furthermore, dependent claim 7 (and similarly dependent claim 22) recites, “at least one variable is a source variable having values characterizing a source of a signal to be processed.” At pages, 21 and 22 of the Final Office Action, it is conceded that these features are neither taught nor suggested by Batten and Bellegarda, but are disclosed by Hoffberg, citing column 82, line 14. In fact, Hoffberg does not teach these features, either at the indicated portions or

elsewhere in the reference. The cited portions relate to various methods for determining a time. Particular examples of ascertaining the time are to call a number that provides the time in a spoken or audio format, and then use speech recognition to translate to a machine readable format; to tune to a television channel that provides a graphic depiction of the time and to use character recognition techniques to translate the time and so on.

Most particularly, receiving some arbitrary input does not teach or suggest what is claimed by merely reciting the word “source.” For example, in order to reject this claimed, it is assumed that “a source variable” from the claims is analogous to the “source access method” of Hoffberg. However, the source access methods of Hoffberg are methods relating to recognition techniques for various time data formats. When considering the claim as a whole (including features recited in the base claims 1 and 16, respectively), it is readily apparent that methods relating to recognition techniques are not the same as the source variable of the instant claims. For example, reference to well-known recognition methods does not teach or suggest “a source variable having values characterizing a source of a signal to be processed” wherein the source variable is a variable from the plurality of variables recited in claims 1 and 16, respectively, that are readily distinguished from the methods mentioned in Hoffberg. For at least these reasons, this rejection should be withdrawn.

V. Rejection of Claims 9, 10, 24, and 25 Under 35 U.S.C. §103(a)

Claims 9, 10, 24, and 25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Batten (US 5,768,478) in view of Bellegarda (US 6,285,785) and Hoffberg (US 7,136,710) as applied to claim 8, and further in view of Thiesson (US 5,097,141). Withdrawal of this rejection is respectfully requested for at least the following reasons. The cited references do not teach or suggest all the claimed features.

In particular, features included in the instant claims have been incorporated into independent claims 1 and 16. Hence, various shortcomings of the indicated references discussed *supra* in §II are applicable here as well. Most particularly, the Final Office Action concedes at page 26 that Hoffberg does not teach “the signals to be processed comprise handwriting samples,” as recited in dependent claims 9 and 24. However, the Examiner maintains this rejection by suggesting that all other features included in the claims are disclosed by Hoffberg, even though such features are intimately tied to handwriting samples.

In essence, the analysis presented rejects the claims in piecemeal fashion by ignoring the meaning of the claims as a whole in favor of finding elements disclosed in Hoffberg that relate to “source,” “context,” and “physical” features in materially distinct contexts *vis-à-vis* what is claimed, and then combining these features (again without any apparent rationale or context) with a reference that describes handwriting samples. Assuming *arguendo* that it is permissible to combine Hoffberg and Thiesson in the manner suggested by the Examiner, the obvious implication required to reject these claims is that *the values of the* “variables” described in Hoffberg *comprise demographic data regarding users creating handwriting samples* described in Thiesson. Such an implication is not germane, as the handwriting samples of Thiesson are incompatible with the features of Hoffberg that are deemed to be analogous to the “variables” of the claims. For example, in all cases, what is deemed by the analysis to be the source variable, the context variable, and the physical variable, relate to aspects of an end-user rather than variables of a signal set. Such analysis is illogical and impermissible, tantamount to merely identifying similar terminology rather than an equivalent teaching. Accordingly, it is respectfully requested that this rejection be withdrawn.

VI. Rejection of Claims 11, 12, 26, and 27 Under 35 U.S.C. §103(a)

Claims 11, 12, 26, and 27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Batten (US 5,768,478) in view of Bellegarda (US 6,285,785) and Hoffberg (US 7,136,710) as applied to claim 8, and further in view of Thiesson (US 5,097,141) and Li (US 7,167,587). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Batten, Li, Hoffberg, and Thiessen, alone or in combination, fail to teach or suggest each and every feature of the instant claims.

Claims 11, 12, 26 and 27 recite features similar to that discussed *supra* regarding independent claims 1 and 16. The additional references do not make up for the deficiencies of Batten, Bellegarda, and Hoffman with respect to this claim. Accordingly, it is respectfully requested that this rejection be withdrawn.

VII. Rejection of Claims 14 and 29 Under 35 U.S.C. §103(a)

Claims 14 and 29 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Batten (US 5,768,478) in view of Bellegarda (US 6,285,785) as applied to claim 13, and further

in view of Yoshizawa (US 5,142,666). This rejection should be withdrawn for at least the following reasons. The cited references, individually as well as combinations thereof, all fail to teach or suggest all features of the subject claims

In particular, claims 14 and 29 ultimately depend from independent claims 1 and 16, which are believed to be allowable as described *supra*. The addition of Yoshizawa does not make up for the aforementioned shortcomings of Batten, Bellegarda, and/or Hoffberg with respect to claims 1 and 16. Accordingly, withdrawal of this rejection is respectfully requested.

VIII. Rejection of Claims 15 and 30 Under 35 U.S.C. §103(a)

Claims 15 and 30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Batten (US 5,768,478) in view of Bellegarda (US 6,285,785) as applied to claim 1 above, and further in view of Butler (US 2005/0049983). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Batten, Bellegarda, and Butler, as well as Hoffberg, alone or in combination with one another, fail to teach or suggest all the claimed features.

Claims 15 and 30 recite features similar to that discussed *supra* regarding independent claims 1 and 16. Butler does not make up for the deficiencies of Batten with respect to this claim. Accordingly, it is respectfully requested that this rejection be withdrawn.

CONCLUSION

The present application is believed to be condition for allowance in view of the amendments and comments herein. A prompt action to such end is earnestly solicited.

A credit card payment form is filed concurrently herewith in connection with the fee for filing this reply. In the event any additional fees may be due and/or are not covered by the credit card, the Commissioner is authorized to charge such fees, or credit any overpayment to Deposit Account No. 50-1063 [MSFTP2220US].

The Examiner is invited to contact applicant's undersigned representative over the telephone to expedite favorable prosecution of the subject application.

Respectfully submitted,

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